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Gait improvement after health intervention: Report from Gait Analysis using Artificial Intelligence for digital Therapeutics of patients with Chronic Kidney Disease (GAIT-CKD)

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Objectives : Walking is a crucial indicator of health status in both healthy individuals and patients. We observed changes in walking patterns through an 8-week health intervention.
Methods : We conducted gait analysis in 217 healthy individuals and 276 patients with CKD). Bioimpedance analysis measurements, the timed-up-and-go (TUG) test, Tinetti test, grip strength tests, and gait analysis were performed before and after the health intervention. Additionally, most participants received health interventions through a mobile app, and improvements in walking patterns were assessed after an 8-week period.
Results : Among the participants who received health intervention services and participated in the 1st and 2nd measurements, there were 171 healthy individuals and 187 patients. In the healthy group, after the service, there was a decrease in TUG (9.895 vs. 8.588 sec), an increase in Tinetti scores (27.15 vs. 27.51), walking velocity (0.240 vs. 0.383 m/s), and in stride (0.214 vs. 0.284). However, there were significant weight gain (66.6 vs. 67.2 kg), an increase in body fat (19.24 vs. 19.91), an increase in visceral fat (91.97 vs. 95.14), and no change in phase angle (phA). Patients also showed a decrease in TUG (12.246 vs. 11.091), an increase in walking velocity (0.123 vs. 0.247), and an increase in average stride (0.095 vs. 0.185) after health intervention. In bioimpedance measurements, there were no significant differences. Specifically, in patients, there was a decrease in skeletal muscle mass (SMI) (7.080 vs. 6.988), no change in weight, a decrease in body water (34.57 vs. 34.14), and an increase in body fat (18.92 vs. 19.42).
Conclusions : In conclusion, despite no improvement in body composition over 8 weeks of health intervention, there was an improvement in walking patterns.